REMARKS

Entry of the above-noted amendments, reconsideration of the application, and allowance of all claims pending are respectfully requested. By this amendment, claim 20 is amended and claims 26-29 are added. These amendments to the claims constitutes a bona fide attempt by Applicants to advance prosecution of the application and obtain allowance of certain claims, and are in no way meant to acquiesce to the substance of the rejections. Support for the amendments can be found throughout the specification, figures (e.g., FIG. 6), and claims and thus, no new matter has been added. Claims 1-9, 12-15 and 18-29 are pending.

Allowance or Non-Final

It is instructive to note Applicants' review of Mattson et al. (USP 6,553,092) and Fujii et al. (USP 4,982,096) in their Response filed 8/26/2005 and Applicants' review of Possin et al. (USP 5,430,298), Mattson, and Rushbrooke et al. (USP 5,685,411) in their Response filed 12/20/2005. Pursuant to MPEP § 706.07(c), it would be inappropriate to make an Office Action final should new references be applied in support of a rejection of any of claims 1-9, 12-15 and 18-25 since Applicants are making no distinguishing amendments to claims 1-9, 12-15 and 18-25 to necessitate such a change of position. The application of new prior art in view of no new distinguishing amendments to claims 1-9, 12-15 and 18-25 by Applicants should be made in a non-final office action.

Claim Objections

Claim 20 is objected to because of informalities. Claim 20 has been amended at line 8 by deleting "the each" substituting therefor --each of the--, as suggested in the Office Action. To accompany this amendment, Applicants also made plural the "arrangement" language following the cited language.

Withdrawal of the objection to claim 20 is therefore respectfully requested.

Claim Rejections - 35 U.S.C. §§ 102 and 103:

Claims 1, 8 and 20 are rejected under 35 U.S.C. §102(b) as being anticipated by Fujii et al. (USP 4,982,096). Claims 1-5, 7-9, 12-14, 20-22, 24 and 25 are rejected under 35 U.S.C. §103(a) as being unpatentable over Possin et al. (USP 5,430,298) in view of Fujii et al. Claims 6 and 23 are rejected under 35 U.S.C. §103(a) as being unpatentable over Possin et al. and Fujii et al. as applied to claims 1 and 20 above, and further in view of Mattson et al. (USP 6,553,092).

Claims 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mattson et al. in view of Possin et al. and Fujii et al. Claim 18 is rejected under 35 U.S.C. §103(a) as being unpatentable over Mattson et al., Possin et al., and Fujii et al. as applied to claim 15 above, and further in view of Rushbrooke et al. (USP 5,685,411). These rejections are respectfully, but most strenuously, traversed.

It is well-settled that there is no anticipation unless (1) all the same elements are (2) found in exactly the same situation and (3) are united in the same way to (4) perform the identical function. Since the Office Action's citations to each of the applied references is missing at least one element of each of Applicants' independent claims, Applicants respectfully submit that the claimed invention is not anticipated by the Office Action's citations to the applied references, as further discussed below.

Applicants respectfully submit that the Office Action's citations to the applied references, with or without modification or combination, assuming, *arguendo*, that the modification or combination of the Office Action's citations to the applied references is proper, do not teach or suggest one or more elements of the claimed invention, as further discussed below.

For explanatory purposes, Applicants discuss herein one or more differences between the Office Action's citations to the applied references and the claimed invention with reference to one or more parts of the applied references. This discussion, however, is in no way meant to acquiesce in any characterization that one or more parts of the Office Action's citations to the applied references correspond to the claimed invention.

Applicants respectfully submit that the Office Action's citations to the applied references do not teach or suggest one or more elements of the claimed invention. A careful reading of the Office Action's citations to the applied reference fails to teach or suggest, for example, the optical mask arranged along the third plane parallel to the first and the second planes, and disposed between the scintillator array and the photodiode array, the optical mask configured to reduce optical transference between the scintillator and the neighboring photodiode, the optical mask located closer to the scintillator array than the photodiode array, as recited in Applicants' independent claim 1.

As stated in Applicants' Response filed 8/26/2005:

> Fujii et al. teaches "separators" that are "located on both sides" of a given scintillator. Fujii et al., col. 3, ll. 11-13. These "separators" are effectively collimators or reflectors that are positioned between adjacent scintillators, as best shown in Figs. 4-5. The separators, which are referenced as numeral 104 and 104A, each extend vertically between adjacent scintillators and, in the embodiment of Fig. 5, extend upwardly past the x-ray reception surface of the

> scintillators 102 toward the source of x-rays 101. As shown in both figures, the separators are arranged parallel to the path of x-rays and, as such, are not arranged in a plane that is parallel to the planes of the scintillators and the photodiodes, as presently claimed.

In addition, Fujii discloses (column 7, lines 17-32; FIG. 9):

> FIG. 9, with reference to U.S. Pat. No. 4,429,227, discloses thin sheet separators 150, which function as a collimator for reducing the quantity of incident radiation scattering beams and also as separators for preventing optical linkage between the adjacent channels. These separators are made of tungsten or a high-density material and are mounted in such a manner as to keep a predetermined positional relationship with the scintillation blocks 151. The scintillation blocks 151 face the light receptive surface 155 of photo diodes 153 that are on a substrate 154 through the employment of optical grease 152. In this conventional example, the thin sheet 150 must have a complicated shape and optical leakage exists between the adjacent channels through the gaps between the thin sheets 150 and the light reception surfaces 155.

The separators 150 are arranged orthogonally relative to the scintillation blocks 151 and the photo diodes 153. The disclosure of Fujii results in the following highlighted change to the discussion in the Office Action (page 3, enumerated paragraph 2): "an optical mask arranged along a third plane (fig. 9 #150) ~~parallel~~ orthogonal to the first and second planes..." Simply missing from the Office Action's citation to Fujii is any mention of the optical mask arranged along the third plane parallel to the first and the second planes, and disposed between the scintillator array and the photodiode array, the optical mask configured to reduce optical transference between the scintillator and the neighboring photodiode, the optical mask located closer to the scintillator array than the photodiode array, as recited in Applicants' independent claim 1.

So, the Office Action's citation to Fujii fails to satisfy at least one of the limitations recited in Applicants' independent claim 1.

The shortcomings of the Office Action's citation to Fujii relative to certain elements of the claimed invention have been discussed above. The Office Action proposes a combination of the citation to Fujii with a citation to Possin. However, the Office Action's citation to Possin does not overcome the deficiency of the Office Action's citation to Fujii. Applicants respectfully submit that the proposed combination of the Office Action's citation to Fujii with the Office Action's citation to Possin fails to provide the required configuration, assuming, *arguendo*, that the combination of the Office Action's citation to Fujii with the Office Action's citation to Possin is proper.

As stated in Applicants' Response filed 12/20/2005, Possin discloses (column 5, line 66, to column 6, line 2; column 6, lines 53-58; column 6, line 64 to column 7, line 20; FIG. 1) boundary light barrier 180:

> In accordance with this invention, pixel boundary light barrier 180 is disposed on first surface 131 of photosensor block 130 so as to overlie the region of photosensor array 120 between respective fully photoactive regions of adjoining pixels 125.
>
> ...
>
> Pixel boundary light barrier 180 is disposed in optical coupling layer, that is, it is disposed on first surface 131 of photosensor array 120 and is otherwise surrounded by optical coupling layer 170, which typically comprises a light transmissive material such as a thermally stable polymer, an epoxy, or the like....
>
> Optical coupling layer 170 and pixel boundary light barrier 180 are typically formed in the following manner. Light barrier is first formed, for example by spinning the polyimide/dye mixture on over first surface 131; after curing, the opaque polyimide/dye material is patterned using photolithographic processes (that can provide high resolution (e.g., <5 .mu.m) resolution) to provide the desired dimensions of segments 182 (FIG. 2) so as to have the light barrier disposed on first surface 131 overlying the areas between the fully photoactive regions of adjoining photodiodes and over switching elements.
>
> In one embodiment of the invention, a channel 184 is disposed in at least one of the segments 182 surrounding each pixel 125 so as to allow fluid communication between the first surface areas overlying the fully photoactive regions of adjoining pixels 125. Optical coupling layer 170 is then deposited, such as UV light curable epoxy. The uncured epoxy is in a fluid state and thus extends over pixels 125 and around light barrier 180; channels 184 assist in the equal distribution of the liquid polyimide between pixels 125 and thus the formation of an optical coupling layer that covers light barrier 180 and is substantially planar. After the optically transparent epoxy is cured using UV illumination, scintillator 110 is formed thereover.

The pixel boundary light barrier 180 is disposed on first surface 131 of photosensor array 120. The pixel boundary light barrier 180 fails to disclose the pixel boundary light barrier 180 located closer to the scintillator 110 than the photosensor array 120. Simply missing from the Office Action's citation to Possin is any mention of the optical mask arranged along the third plane parallel to the first and the second planes, and disposed between the scintillator array and the photodiode array, the optical mask configured to reduce optical transference between the scintillator and the neighboring photodiode, the optical mask located closer to the scintillator array than the photodiode array, as recited in Applicants' independent claim 1. In this regard, the Office Action concedes (page 4, enumerated paragraph 4): "Posin et al. fails to disclose an optical mask located closer to a scintillator array than a photodiode array."

So, the Office Action's citation to Possin fails to satisfy at least one of the limitations recited in Applicants' independent claim 1.

The shortcomings of the Office Action's citations to Fujii and Possin relative to certain elements of the claimed invention have been discussed above. The Office Action proposes a combination of the citations to Fujii and Possin with a citation to Mattson. However, the Office Action's citation to Mattson does not overcome the deficiency of the Office Action's citations to Fujii and Possin. Applicants respectfully submit that the proposed combination of the Office Action's citations to Fujii and Possin with the Office Action's citation to Mattson fails to provide the required configuration, assuming, *arguendo*, that the combination of the Office Action's citations to Fujii and Possin with the Office Action's citation to Mattson is proper.

Mattson discloses a radiographic detector having scintillation elements and photodiode elements. The scintillation elements and the photodiode elements are arranged in layers parallel to one another. Mattson fails to disclose an optical mask layer sandwiched between the scintillator and photodiode layers as recited in Applicants' independent claim 1. Mattson discloses "anti-scatter grid elements" that are arranged vertically, i.e., parallel to the path of x-ray incidence, between adjacent scintillators (e.g., Figs. 6, 6A, and 6B of Mattson). Simply missing from the Office Action's citation to Mattson is any mention of the optical mask arranged along the third plane parallel to the first and the second planes, and disposed between the scintillator array and the photodiode array, the optical mask configured to reduce optical transference between the scintillator and the neighboring photodiode, the optical mask located closer to the scintillator array than the photodiode array, as recited in Applicants' independent claim 1.

So, the Office Action's citation to Mattson fails to satisfy at least one of the limitations recited in Applicants' independent claim 1.

The shortcomings of the Office Action's citations to Fujii, Possin, and Mattson relative to certain elements of the claimed invention have been discussed above. The Office Action proposes a combination of the citations to Fujii, Possin, and Mattson with a citation to Rushbrooke. However, the Office Action's citation to Rushbrooke does not overcome the deficiency of the Office Action's citations to Fujii, Possin, and Mattson. Applicants respectfully submit that the proposed combination of the Office Action's citations to Fujii, Possin, and Mattson with the Office Action's citation to Rushbrooke fails to provide the required configuration, assuming, *arguendo*, that the combination of the Office Action's citations to Fujii, Possin, and Mattson with the Office Action's citation to Rushbrooke is proper.

The Office Action provides the following citation to Rushbrooke:

Rushbrooke et al. teaches silicon (col. 2, lines 12-17).

The Office Action's citation to Rushbrooke, assuming, *arguendo*, it is correct, on its face fails to disclose, *inter alia*, the optical mask arranged along the third plane parallel to the first and the second planes, and disposed between the scintillator array and the photodiode array, the optical mask configured to reduce optical transference between the scintillator and the neighboring photodiode, the optical mask located closer to the scintillator array than the photodiode array, as recited in Applicants' independent claim 1.

So, the Office Action's citation to Rushbrooke fails to satisfy at least one of the limitations recited in Applicants' independent claim 1.

The Office Action's citations to Fujii, Possin, Mattson, and Rushbrooke all fail to meet at least one of Applicants' claimed features. For example, there is no teaching or suggestion in the Office Action's citations to Fujii, Possin,, Mattson, and Rushbrooke of the optical mask arranged along the third plane parallel to the first and the second planes, and disposed between the scintillator array and the photodiode array, the optical mask configured to reduce optical transference between the scintillator and the neighboring photodiode, the optical mask located closer to the scintillator array than the photodiode array, as recited in Applicants' independent claim 1.

Furthermore, the Office Action does not allege that the art of record provides any teaching, suggestion, or incentive for modifying the citations to Fujii, Possin, Mattson, and/or Rushbrooke to provide the claimed configuration.

For the reasons presented above with reference to claim 1, claims 1, 8, 15, and 20 are believed neither anticipated nor obvious over the art of record. The corresponding dependent claims are believed allowable for the same reasons as independent claims 1, 8, 15, and 20, as well as for their own additional characterizations.

Withdrawal of the §§ 102 and 103 rejections is therefore respectfully requested.

Therefore, in light of at least the foregoing, Applicant respectfully believes that the present application is in condition for allowance. As a result, Applicant respectfully requests timely issuance of a Notice of Allowance for claims 1-9, 12-15 and 18-29.

Applicant hereby authorizes charging of deposit account no. 07-0845 for any additional fees associated with entering the aforementioned claims.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to

Deposit Account No. 07-0845. Should no proper payment be enclosed herewith, as by credit card authorization being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 07-0845. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extensions under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 07-0845. Please consider this a general authorization to charge any fee that is due in this case, if not otherwise timely paid, to Deposit Account No. 07-0845.

Applicant appreciates the Examiner's consideration of these Amendments and Remarks and cordially invites the Examiner to call the undersigned, should the Examiner consider any matters unresolved.

Respectfully submitted,

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